March 2009 News from UC Davis
POSTHARVEST TECHNOLOGY
Research & Information Center

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News from the Center

Register Soon! Antalya, Turkey: Postharvest Technology Short Course for Enterprises in Developing & Emerging Economies
This unique short course is being presented April 13-17, 2009 in Antalya, Turkey, by instructors from the University of California, Davis, and Akdeniz University in Antalya, Turkey. The course will be limited to 25 participants from countries with developing or emerging economies. The course will be held at the Dedeman Antalya Resort Hotel & Convention Center, a five-star resort, immediately following the International Postharvest Symposium (April 8-12). For a complete agenda, more information about the course instructors, or to register, please see: http://ucanr.org/antalyashortcourse

15th Fruit Ripening & Ethylene Management Workshop
We invite produce managers, shippers, and others interested in managing the quality of fresh produce to join us on April 28 – 29, 2009 for an expanded two-day Fruit Ripening & Ethylene Management workshop on the UC Davis campus, offering more interactive and hands-on opportunities than ever before. The workshop will focus on how to increase profits by delivering ready-to-eat, delicious fruits and fruit-vegetables to consumers. It provides participants with cutting edge technical information and provides familiarity with commercially available tools that they can use to manage fruit ripening and control the effects of ethylene. The workshop is taught by university researchers and industry professionals, providing a balance of the latest research and practical experience.

Three Walnut Dehydrator Workshops
Three one-day sessions will be held in Tulare (4/7), Stockton (4/8), and Yuba City (4/9). The instructors will include Chris Sinclair from Woodside Electronics, Jim Thompson from the UC Davis Bio & Ag Engineering Department, Don Osias from Applied Instrumentation, and Linda Harris from the UC Davis Dept. of Food Science & Technology. For more information see: http://ucanr.org/walnutdehydratorworkshops

31st Postharvest Technology Short Course
We’re looking forward with great excitement to our annual 2-week short course of the UC Davis Postharvest Technology Center that will be held on June 15-26, 2009. The course will provide participants with a
comprehensive overview of current and emerging postharvest technologies. The optional second week’s field tour offers a wide variety of postharvest handling operations throughout California, and will provide course participants with an opportunity to see theory learned in the first week of the short course put into practice.

StePac Excellence in Post-harvest Education Foundation
We’re very proud that StePac has included an opportunity to attend the UC Davis Postharvest Technology Short Course in their 2009 Post-harvest Education Foundation offerings. We look forward to meeting the recipient of this grant.

Fresh-cut Workshop Registrations Now Open
We’re pleased to announce the opening of registrations for the 14th Annual Fresh-Cut Products: Maintaining Quality & Safety Workshop. This renowned workshop is coordinated by Dr. Marita Cantwell and is designed for individuals from the fresh and processed fruit and vegetable industries. Food scientists, food engineers, quality assurance personnel and new product development staff will find it of interest. Dr. Cantwell has been working hard as she developed her 2009 agenda to make sure that the most current information and most knowledgeable speakers are included.

Thanks to our Endowment Contributor
We appreciate the company listed below, who recently contributed very generously to the Postharvest Program Endowment fund.

ABSOGER SAS

The interest from this fund continues to make a difference in our Web site. Thanks for considering making a contribution today!

What's New on our Website this Month

Additions to the Postharvest Library

New publication on the flavor acceptability during maturation of naval oranges:


We have added to our informative section of recommendations and information on Produce Irradiation a link to an article on Food Irradiation: A Guide for Consumers, Policymakers and the Media, a science policy paper by the Grocery Manufacturers Association.

New Produce Facts in French
This month we express our appreciation to Djamila Rekika for translating the following Produce Facts into French:

- Alstromeria, Lys du Pérou
- Bouvardia, Bouvardie

Produce Safety Summit
Dr. Jim Gorny, executive director of the UC Davis Postharvest Technology Research & Information Center, was an invited participant in the Produce Safety Summit: Implications of Mandatory Safety Standards which occurred on March 5, 2009 at the Woodrow Wilson International Center for Scholars in Washington, DC. The Summit, organized by the Produce Safety Project, an initiative of The Pew Charitable Trusts at Georgetown University, provided an opportunity for select food safety policy experts from business, government, academia, and consumer groups to explore potential implications and outcomes of implementing mandatory Federal produce
safety standards. The meeting did not focus on potential standards, but on the acceptability and enforceability of produce food safety standards if and when they are mandated.

**Syngenta Seeds Helps UC Davis Graduate Student Pursue a Better Watermelon**

One of Diane Barrett’s graduate students, Jennifer Shiu, has been awarded a [graduate student fellowship](#) by Syngenta Seeds. The gift will support Shiu on her two-year graduate study program to screen different watermelon varieties and develop methods to quantify the crispness and juiciness of each.

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**Postharvest Workshops @ UC Davis**

**2009 Postharvest Workshops**

We are now accepting registrations for the following UC Davis Postharvest Technology Research & Information Center Courses:

- **Fresh Produce Marketing Strategies Short Course.** March 24-26, 2009. UC Davis campus.
- **Fruit Ripening & Ethylene Management Workshop.** April 28-29, 2009. UC Davis campus.
- **Postharvest Technology Short Course.** June 15-26, 2009. UC Davis campus.
- **Fresh-cut Products: Maintaining Quality & Safety.** September 22-24, 2009. UC Davis campus.

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**Featured Postharvest Publication**

“**Fruit Ripening and Ethylene Management**” Publication Featured

This month we are again offering a 20% discount for customers who order the “**Fruit Ripening and Ethylene Management**” (2008) edited by James F. Thompson, publication for their library. Please use our [Order Form](#), and be sure to note “**March Discount**” on the order form to receive your discount.

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**Postharvest Calendar: Upcoming Conferences, Courses and Workshops**

- March 24-26, 2009. **Fresh Produce Marketing Strategies Short Course.** UC Davis campus.
- April 8-12, 2009. **6th International Postharvest Symposium.** Antalya, Turkey.
- April 13-17, 2009. **Postharvest Technology Short Course for Enterprises in Developing & Emerging Economies.** Antalya, Turkey
- April 14-16, 2009. **Center for Advanced Processing and Packaging Studies (CAPPS).** UC Davis campus.
- June 8-11, 2009. **7th International Peach Symposium.** Lleida, Spain
- September 29-October 3, 2009. **Fourth International Symposium on Fig.** Meknès, Morocco.
- August 22-27, 2010. **28th International Horticultural Congress.** Lisbon, Portugal
**Ask the Produce Docs**

**Q.** I need some quick tips on refrigeration, care & handling etc. In particular, can you provide some guidelines for the following statement: if strawberries are left out of refrigeration for X hours, they will deteriorate at a rate of x? (J.G.)

**A.** The key to answering this question is understanding that as temperatures rise so does the produce metabolic activity (including aging reactions) and this metabolic activity can be quantified by measuring a produce items' respiration rate (i.e. the rate of carbon dioxide production by a commodity). A helpful resource is our Produce Facts which lists the respiration rate of produce items at various temperatures: [Recommendations for Maintaining Postharvest Quality of Strawberry](#).

From the Strawberry Produce Fact:

<table>
<thead>
<tr>
<th>Temperature</th>
<th>0°C (32°F)</th>
<th>10°C (50°F)</th>
<th>20°C (68°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ml CO₂/kg·hr</td>
<td>6 - 10</td>
<td>5 - 50</td>
<td>50 - 100</td>
</tr>
</tbody>
</table>

From this table you can see that if you store berries at room temperature (68°F) they have a respiration that is 10 times greater (10 vs 100) than if you stored them at 32°F. That means that strawberries are deteriorating (at 68°F) at rate 10 times faster than if they were held at 32°F.

Unfortunately your question as posed can’t be answered. The best equivalent statement I can propose would state that "Strawberries held at room temperature deteriorate at a rate 10X faster than if held in ideal conditions at 32°F). Also, decay incidence and severity is 10 times as fast at 68°F as 32°F.

The shelf-life clock starts ticking the second a strawberry is plucked from the mother plant. How long, in terms of total time, a strawberry has for acceptable shelf-life is dependent on many factors (fruit maturity, variety, growing conditions, etc.). How fast the shelf-life clock clicks down to zero is influenced by the storage temperature. The warmer the storage temperature the faster the shelf-life clock clicks down to zero. In case of strawberries that rate is 10X times faster at room temperature compared to 32°F.  

--Jim Gorny

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